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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/759,155	01/20/2004	Thierry Pain	Q79358	7743
23373	7590	01/30/2006	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037			RATCLIFFE, LUKE D	
			ART UNIT	PAPER NUMBER
			3662	

DATE MAILED: 01/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/759,155	<b>Applicant(s)</b> PAIN ET AL.	
	<b>Examiner</b> Luke D. Ratcliffe	<b>Art Unit</b> 3662	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 14 December 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

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## **DETAILED ACTION**

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 1-5 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt (6444968) in view of Stoffel (4712018).**

Referring to claims 1 and 5, Burt shows a method of detecting a light signal comprising the conversion of light signal into electric charges (column 1 line 54 to column 4 line 55), periodic sampling (column 1 line 54 to column 4 line 55), chained movement of samples through a memory towards a processing device (column 1 line 54 to column 4 line 55), and samples subjected to amplification by multiplication (column 1 line 54 to column 4 line 55). However Burt does not show an image area that is stepped through each row of the memory region.

Stoffel shows an image region that is only one row of photosensors and if the photosensors of Burt are replaced with the photosensors of Stoffel and the method of reading the photosensors was unchanged the image area would step through each row of the memory region. It would have been obvious to modify Burt to include the single row of photosensors taught by Stoffel because this allows for continuous imaging without having to wait for the memory region to clear before the next image is taken.

Referring to claim 2, with the combination of Burt and Stoffel the image area includes only one row.

Referring to claim 3 and 4, if the control voltage is in reference to the timing of the shifts along the columns, Burt shows a control voltage that controls the shift along the columns (column 4 lines 38-50). If the control voltage is in reference to the amplitude of multiplication that the signal will encounter upon entering the processing device Burt shows a gain control (figure 1 Ref 11).

**Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ulich (5013917) in view of Burt (6444968) and Stoffel (4712018).**

Referring to claim 6, Ulich shows a lidar detection system comprising a device for emitting a light signal (figure 1 Ref 10), and a device for transmitting a returned portion of light (figure 1 Ref 24 and 26). Burt shows a method of detecting a light signal comprising the conversion of light signal into electric charges (column 1 line 54 to column 4 line 55), periodic sampling (column 1 line 54 to column 4 line 55), chained movement of samples through a memory towards a processing device (column 1 line 54 to column 4 line 55), and samples subjected to amplification by multiplication (column 1 line 54 to column 4 line 55). However Burt does not show an image area that is stepped through each row of the memory region.

Stoffel shows an image region that is only one row of photosensors and if the photosensors of Burt are replaced with the photosensors of Stoffel and the method of reading the photosensors was unchanged the image area would step through each row of the memory region. It would have been obvious to modify Ulich to include the sensor

discussed in Burt and to modify Burt to include the single row of photosensors taught by Stoffel because this allows for continuous imaging without having to wait for the memory region to clear before the next image is taken.

Referring to claim 7, Burt shows a memory region and a read region that are successively arranged in the sensor (figure 1).

Referring to claim 8, the combination of Burt and Stoffel shows a total number of rows in the image region is less than the total number of rows of the memory region.

Referring to claim 9, Referring to claim 6, Ulich shows a lidar detection system comprising a device for emitting a light signal (figure 1 Ref 10), and a device for transmitting a returned portion of light (figure 1 Ref 24 and 26). Burt shows a method of detecting a light signal comprising the conversion of light signal into electric charges (column 1 line 54 to column 4 line 55), periodic sampling (column 1 line 54 to column 4 line 55), chained movement of samples through a memory towards a processing device (column 1 line 54 to column 4 line 55), and samples subjected to amplification by multiplication (column 1 line 54 to column 4 line 55), and an inherent timing that clocks when to shift the cells. However Burt does not show an image area that is stepped through each row of the memory region.

Stoffel shows an image region that is only one row of photosensors and if the photosensors of Burt are replaced with the photosensors of Stoffel and the method of reading the photosensors was unchanged the image area would step through each row of the memory region. It would have been obvious to modify Ulich to include the sensor discussed in Burt and to modify Burt to include the single row of photosensors taught by

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Stoffel because this allows for continuous imaging without having to wait for the memory region to clear before the next image is taken.

Referring to claim 10, Stoffel shows an image region comprising a total of one row of cells (figure 1).

### ***Response to Arguments***

Applicant's arguments with respect to claims 1 and 5 have been considered but are moot in view of the new ground(s) of rejection. The argument of the image region only having one row is overcome by Stoffel showing one row of image sensors that can modify Burt to include only one row of image sensors for the purpose of being able to continuously image rather than having to wait for the entire memory to clear before another image is taken. Also while Burt is silent on the row by row shifting of the signal from the image region to the memory region the examiner stresses that it is impossible for the information of the image region to just appear in the memory region, a shifting must occur and Burt is silent because of the inherency of this fact.

Applicant's arguments, with respect to claims 1, 3, and 4, filed 12/14/05 have been fully considered but they are not persuasive. The examiner notes that the sensor used by Ulich and the modified CCD sensor taught by Burt in view of Stoffel are functional equivalents.


### ***Conclusion***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Luke D. Ratcliffe whose telephone number is 571-272-3110. The examiner can normally be reached on 8:00-4:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Tarcza can be reached on 571-272-6979. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

LDR

  
THOMAS H. TARCZA  
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